



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

The Governor, on Behalf of Yamanashi Prefecture &  
The President, on Behalf of Nichino Ryokka Company, Ltd.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC FURNISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE SAID APPLICANT(S) TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED IN THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RYEGRASS, PERENNIAL

'YatsuGreen'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-first day of March, in the year two thousand and five.

Attest:

*[Signature]*

Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service



*[Signature]*

Secretary of Agriculture

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <i>Ken Amano</i> 9/30/99		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME YATSUGATAKE G-1		3. VARIETY NAME <i>Yatsugreen</i> YATSUGREEN	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  *1: 1-6-1 MARUNOUCHI, KOFU YAMANASHI 400-8501, JAPAN		5. TELEPHONE (include area code) 001-81-55-223-1618		FOR OFFICIAL USE ONLY PVPO NUMBER 9900360	
6. FAX (include area code) 001-81-55-223-1622		7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) *1: YAMANASHI PREFECTURE *2: NICHINO RYOKKA CO., LTD.		8. IF INCORPORATED, GIVE STATE OF INCORPORATION	
9. DATE OF INCORPORATION		10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) *1: KEN AMANO, GOVERNOR OF YAMANASHI PREFECTURE 1-6-1 MARUNOUCHI, KOFU YAMANASHI 400-8501, JAPAN		FILING AND EXAMINATION FEES: 2450.00 July 23, 1999 DATE CERTIFICATION FEE: 432 September 30, 2004 DATE	
11. TELEPHONE (include area code) 001-81-55-223-1618		12. FAX (include area code) 001-81-55-223-1622		13. E_MAIL	
14. CROP KIND (Common Name) PERENNIAL RYEGRASS		15. GENUS AND SPECIES NAME OF CROP LOLIUM PERENNE		16. FAMILY NAME (Botanical) GRAMINEAE	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 63(a) of the Plant Variety Protection Act. <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)	
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER <i>Ken Amano</i>		SIGNATURE OF OWNER <i>Masakazu Arimori</i>			
NAME (Please print or type) KEN AMANO		NAME (Please print or type) MASAKAZU ARIMORI			
CAPACITY OR TITLE GOVERNOR OF YAMANASHI PREFECTURE		CAPACITY OR TITLE PRESIDENT OF NICHINO RYOKKA CO., LTD.		DATE MAY 17, 1999	

## INSTRUCTIONS

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

## ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
  - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
  - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

**22. CONTINUED FROM FRONT** (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

**23. CONTINUED FROM FRONT** (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

JAPAN, FILED ON MARCH 8, 1999. FILING NO. 11602

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-96) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

**EXHIBIT A.****ORIGIN AND BREEDING HISTORY OF  
"YATSUGREEN" PERENNIAL RYEGRASS**

"YatsuGreen" perennial ryegrass has been developed by the breeding procedure of half-sib family selection. Total of 67 diploid varieties of turf type perennial ryegrass which were introduced from seed companies and research institutes of USA, European countries and New Zealand, were evaluated for genetic characteristics in spaced plant trial in 1992 and 93 at Yamanashi Prefectural Dairy Experiment Station ( YPDES ), Japan (Table 1). Superior 49 plants derived from 26 varieties were selected for summer tolerance and disease resistance such as crown rust and brown patch (Table 2). The polycross progeny of these selected plants were evaluated in dense spaced plant trial in 1995 and 1996. 92 plants belonging to 10 maternal lines were selected as the parents of "YatsuGreen" in 1997. "Yatsugatake G-1" was the experimental designation of "YatsuGreen".

Several performance tests as turf trial, spaced plant trial and seed production evaluation trials have been carried out since 1997 at the research fields of YPDES and Nichino Ryokka Co. LTD.

Breeder seed of "YatsuGreen" was produced from subsequent generation of polycross progenies of 92 selected plants and has been maintained at YPDES. Seed propagation is limited to two generations of increase from breeder seed - - - one each of foundation and certified.

"YatsuGreen" is a stable and uniform variety. No off-type plants or variants have been observed in the reproduction or multiplication of "YatsuGreen".

Table 1. List of varieties evaluated for genetic characteristics

Country	Variety name
USA	Advent, All*Star, APM, Blazer II, Citation II, Dasher II, Derby, Fiesta II, Gator, Gettysburg, Manhattan II, Omega II, Peinfine, Pennant, Pick1800, Pinnacle, Pleasure, Prelude II, Premier, Regal, Repell II, Saturn, Sherwood, Tara, Yorktown II
The Netherlands	Arno, Barball, Barclay, Barcredo, Barlow, Barrage, Barry, Bianca, Boston, Capri, Cherokee, Corso, Flair, Hekmes, Jetta, Juventus, Master, Merci, Mondial, Opinion, Ovation, Prester, Queens, Superstar, Talgo, Troubadour, ZLP901, ZLP902
Sweden	Apus, Ronja
Denmark	Dacapo, Dolby, Pleno, Taya
Germany	Lisabelle, Lisuna, Livonne, Loretta, Lorina, Marietta, Trimmer
New Zealand	Grasslands Cornet

Table 2. List of selected plants in the evaluation test

Variety	No. of selected plants
Advent	1
All*Star	2
Blazer II	1
Capri	1
Cherokee	3
Citation II	2
Dasher II	5
Derby	1
Fiesta II	1
Grasslands Cornet	5
Gator	1
Lisabelle	3
Manhattan II	2
Omega II	2
Ovation	1
Pick 1800	2
Pinnacle	4
Pleasure	1
Prelude II	1
Premier	1
Regal	2
Repell II	2
Saturn	1
Sherwood	1
Tara	1
Yorktown II	2
Total	49

**EXHIBIT B.****NOVELTY STATEMENT ON "YATSUGREEN"  
PERENNIAL RYEGRASS**

"YatsuGreen" perennial ryegrass can be distinguished from all other varieties by the combination of spaced plants and turf characteristics described in Tables 3 to 7.

"YatsuGreen" most closely resembles "Manhattan II" and "Advent". It differs significantly from Manhattan II and Advent in the following characteristics:

1. "YatsuGreen" is 5 days earlier in date of heading than "Manhattan II" and 2 days earlier than "Advent".
2. "YatsuGreen" has significantly better resistance to crown rust, leaf spot and brown patch than these varieties.
2. "YatsuGreen" has significantly better tolerance of summer depression than these varieties.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY PROGRAM  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**EXHIBIT C  
(RYEGRASS)**

**OBJECTIVE DESCRIPTION OF VARIETY  
RYEGRASS  
(*Lolium* spp.)**

<b>NAME OF APPLICANT(S)</b> <del>Yamanashi Prefecture and Nichino Ryokko Co., LTD.</del> <i>The Governor, on Behalf of Yamanashi Prefecture &amp; The President, on Behalf of Nichino Ryokko Company, Ltd.</i>	<b>TEMPORARY DESIGNATION</b> <i>Yad 9/30/04</i>	<b>VARIETY NAME</b> Yatsu Green
<b>ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)</b> 1-6-1, Marunouchi, Kofu 400-8501, Japan 14-4, Kodenma-chou, Nihonbashi, Chuo-ku, Tokyo 103-0001, Japan		<b>FOR OFFICIAL USE ONLY</b> <b>PVPO NUMBER</b> <div style="border: 1px solid black; padding: 5px; display: inline-block;">9900360</div>

Place the appropriate number that describes the varietal characteristics of this variety in the boxes below. Use leading zeroes when necessary (e.g. 089). Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all pertinent comparative trial and evaluation data. The symbol "▲" indicates decimal.

**1. SPECIES:**

<div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> 1 = <i>L. multiflorum</i> (annual or italian: includes Westerwoldicum)	2 = <i>L. perenne</i> (perennial)	3 = <i>L. rigidum</i> (includes Wimmeria)
4 = Hybrid (of species): _____ 5 = Other (Please specify): _____		

**2. PLOIDY:**

<div style="border: 1px solid black; padding: 2px; display: inline-block;">1</div> 1 = Diploid	2 = Tetraploid	3 = Other (Please specify): _____
--	----------------	-----------------------------------

**3. DURATION:**

<div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> 1 = Annual or Biennial	2 = Short lived perennial (3-4 years)	3 = Perennial (more than 4 years)
---	---------------------------------------	-----------------------------------

**STANDARD CULTIVARS**

1 = GULF	2 = WIMMERIA 62	3 = LINN	4 = PELO
5 = NORLEA	6 = ABERYSTWYTH S-23	7 = MANHATTAN	8 = PENNFINE

**4. MATURITY (50% HEADED) Use standards from above for comparison:**

<div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> 1 = Very Early 5 = Medium	3 = Early 7 = Late	<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 8</div> DAYS EARLIER THAN ... <div style="border: 1px solid black; padding: 2px; display: inline-block;">12</div>	<i>Manhattan II</i> STANDARD CULTIVAR
		<div style="border: 1px solid black; padding: 2px; display: inline-block;">0 3</div> DAYS LATER THAN ... <div style="border: 1px solid black; padding: 2px; display: inline-block;">11</div>	<i>Pennfine - Early</i> STANDARD CULTIVAR

**5. MATURE PLANT HEIGHT (Use standard cultivars from above):**

<div style="border: 1px solid black; padding: 2px; display: inline-block;">5 1</div> cm High	<div style="border: 1px solid black; padding: 2px; display: inline-block;">  </div> cm Shorter than.....	<div style="border: 1px solid black; padding: 2px; display: inline-block;">  </div> STANDARD CULTIVAR
<div style="border: 1px solid black; padding: 2px; display: inline-block;">   0 3</div> cm Taller than.....	<div style="border: 1px solid black; padding: 2px; display: inline-block;">12</div> STANDARD CULTIVAR	



6. **PERCENT WINTER DAMAGE** (estimated as percent of the area appearing dead. Use standard cultivars from above for comparison):

0 Percent Damage of Application Cultivar

0 Percent Damage of .....  8 STANDARD CULTIVAR

7. **TURF DENSITY** (Use standard cultivars from above):

1  0  5 Tillers per 100 square cm

Less tillers per 100 square cm than ...  STANDARD CULTIVAR

More tillers per 100 square cm than ...  STANDARD CULTIVAR

8. **FLAG LEAF** (at full growth, use standard cultivars from above):

2  4  .4 cm Length (from ligule to tip)  0  0  5 mm Width (at widest point)

cm Shorter than .....  STANDARD CULTIVAR

0  2 cm Longer than .....  12 STANDARD CULTIVAR

mm Narrower than .....  STANDARD CULTIVAR

0  0  1 mm Wider than .....  12 STANDARD CULTIVAR

3 Flag Leaf at Boot Stage

1 = Deflexed  
3 = Recurved  
5 = Horizontal  
7 = Semi-Erect  
9 = Erect

9. **LEAVES:**

3 Vernation: 1 = Leaves rolled in young shoots 2 = Leaves semi-rolled (folded with rolled edges)  
3 = Leaves folded in young shoots

8  0 % Plants with anthocyanin in lower leaf sheath

2 Foliage Color: 1 = Yellow Green  
2 = Medium Green  
3 = Blue Green

10. **SPIKE:**

2  9  .9 cm Spike length (tip to internode below lowest floret)

cm Shorter than .....  STANDARD CULTIVAR

3  .0 cm Longer than .....  12 STANDARD CULTIVAR

1  3  0  0 mg per ten spikes (trimmed to internode below lowest floret)

mg lighter per ten spikes than .....  STANDARD CULTIVAR

mg heavier per ten spikes than .....  STANDARD CULTIVAR

6  .3 florets per spikelet

**PERCENTAGE OF PLANTS WITH:**

Rachis:  1  0  0 % Smooth    % Rough

Spike Color:  1  0  0 % Green    % Purple

Lemma:    0 % Awned

0 mm Awn length

9  .6 mm Glume length

## 10. SPIKE (Continued)

9900360

2

- 1 = Spikelet length nearly equal to outer glumes  
2 = Spikelet length much longer than outer glumes

## 11. COLEOPTILE:

0 3 0

% Plants with anthocyanin in coleoptile

## 12. ANTHOR COLOR:

0 0 0

% Plants with white anthers

1 0 0

% Plants with yellow anthers

0 0 0

% Plants with purple anthers

## 13. ROOT AND PLANT CHARACTERS:

0 0 0

% Plants with prostrate growth habit

0 0 0

% Plants with fluorescent roots

1 0 0

% Plants with upright growth habit

## 14. SEED:

1 9 2 8

mg per 1000 seeds

5 2

mm Total Length of 10 seeds

1 1

mm Total Width of 10 seeds

## 15. DISEASE (0 = Not Tested, 2 = Highly Susceptible, 4 = Moderately Susceptible, 6 = Moderately Resistant, 8 = Highly Resistant)

8

Crown Rust (*Puccinia coronata*)

0

Dollar Spot (*Sclerotinia*)

7

Brown Patch (*Rhizoctonia*)

8

Leaf Spot (*Helminthosporium*)

0

Mildew

0

Snow Mold (*Typhula*)

0

Red Thread (*Corticium*)

0

Other (Please Specify):

## 16. INSECT (0 = Not Tested, 2 = Highly Susceptible, 4 = Moderately Susceptible, 6 = Moderately Resistant, 8 = Highly Resistant)

0

Please Specify: \_\_\_\_\_

## 17. Give resemblance value in left column and variety code number in right column for variety with which comparison is made (1 = less than, 2 = same as, 3 = more erect, more resistant, denser, more persistent, darker or greater height.):

Resemblance	Character	Similar Variety	
2	Plant Habit (erectness)	8	1 = GULF
3	Tillering	8	2 = WIMMERIA 62
1	Winter hardiness	8	3 = LINN
1	High Temperature Stress Resistance	3	4 = PELO
1	Turf Persistence	8	5 = NORLEA
2	Plant Color	12	6 = ABERYSTWYTH S-23
3	Vertical Seeding Growth Rate	12	7 = MANHATTAN
3	Crown Density	8	8 = PENNFINE
2	Mower Shredding Resistance	8	

9900360

18. GIVE AREA OF ADAPTATION AND INTENDED USE: Cool Season growing area of U.S. and Southern overseeding or appropriated area.
19. GIVE AREA TEST RESULTS PRESENTED FROM: Hubbard, Oregon and Yamanashi, Chiba of Japan.
20. COMMENTS:

10

## EXHIBIT D.

ADDITIONAL DESCRIPTION OF  
"YATSUGREEN" PERENNIAL RYEGRASS

"YatsuGreen" is an improved turf-type perennial ryegrass variety developed in Japan. Climatic condition of Japan is characterized by a great variation of temperature between the summer and the winter seasons and much precipitation in long rainy season, as compared with the other countries where perennial ryegrass is well grown. Many of varieties from introduced from European countries and US cause great losses in persistency and are exposed to severe attacks of summer diseases, such as crown rust and brown patch. "YatsuGreen" was improved for the tolerance of summer depression and disease resistance of crown rust and brown patch from the basic population consisted of the plants survived under the Japanese severe condition of summer season and showed less attack of summer diseases by the half sib family selection.

"YatsuGreen" showed better performance during summer season with the comparison of other US varieties under Japanese condition. "YatsuGreen" has very good resistance to crown rust (*Puccinia coronata*) and leaf spot (*Drechslera* spp.). This improved variety has a resistance to brown patch (*Rhizoctonia solani*). "YatsuGreen" showed also good performance under the drought condition. "YatsuGreen" has excellent seedling vigor and it has performed well for the overseeding onto dormant *Zoysia japonica*.

9900360

Table 3-1. Characteristics in spaced plants trial at YPDES 1978

708  
9/1/04

Strain / Variety	Heading date	Plant type	Plant height	Leaf length	Leaf width	Leaf colour	Culm length	Culm size
YatsuGreen	6.3	5.4	51.4	24.2	5.1	4.9	52.4	1.59
Yatsugatake G-2	18.5	6.8	50.1	21.6	4.4	4.7	48.3	1.59
Manhattan II	10.5	5.6	48.2	21.8	3.8	5.5	39.9	1.53
Manhattan III	18.0	6.5	46.5	18.9	3.4	5.9	42.7	1.32
Imagine	14.0	4.9	39.3	18.3	4.5	6.9	36.7	1.54
Advent	8.0	5.8	48.5	21.9	4.3	5.6	48.3	1.63
APM	12.3	6.1	50.6	23.4	4.4	5.6	49.7	1.61
Prizm	10.8	6.0	51.3	22.9	4.9	5.5	42.6	1.68
Pennfine	2.8	5.5	48.5	23.8	5.0	4.1	53.3	1.55
Criteria	1)	2)	cm	cm	mm	3)	cm	mm
LSD(5%)	2.0	0.4	2.9	2.1	0.8	0.3	5.4	0.12
Data of Observation	-	heading time	21-May	heading time	heading time	22-May	heading time	heading time

1) May 1st: 1, 2) 1: erect-9: prostrate, 3) 1: light-9: dark,

Table 3-2. Characteristics in spaced plants trial at YPDES 1978

Strain / Variety	Ear length	Number of spiklets	Ration of emergence	Resistance of crown rust	Resistance of brown patch	Summer tolerance
YatsuGreen	29.9	25.4	4.8	8.5	7.3	7.3
Yatsugatake G-2	28.1	25.6	2.0	8.0	6.5	7.0
Manhattan II	26.9	23.6	3.3	6.0	3.8	4.0
Manhattan III	25.6	25.0	2.0	6.0	4.3	4.8
Imagine	23.0	20.3	4.3	5.8	4.5	4.5
Advent	28.1	24.2	5.3	5.3	4.5	4.8
APM	28.9	24.8	5.8	5.8	4.5	4.5
Prizm	28.6	24.7	4.8	5.8	4.0	4.5
Pennfine	28.4	24.3	4.0	2.3	3.8	4.0
Criteria	cm	cm	4)	5)	5)	6)
LSD(5%)	2.7	1.9	0.9	0.9	0.9	0.7
Data of Observation	heading time	heading time	14-Jul	22-Jul	2-Sep	2-Sep

4) 1: few-9: many, 5) 1: weak-9: resistant, 6) 1: poor-9: good

9900360

9900360

Table 4. Seed size of various perennial ryegrass varieties, *PPDES 1998*724  
9/11/04

Variety / Strain	Seed size mg/ 1000 seeds
YatsuGreen	1928
Yatsugatake G-2.	1735
APM	1933
Advent	1764
LSD(5%)	NS

9900360

Table 5. Some characteristics in turf trial at YPDES, 1998

Variety / Strain	Summer tolerance <sup>1)</sup>	Resistance of brown patch <sup>2)</sup>
YatsuGreen	8.0	7.5
Yatsugatake G-2	7.3	6.8
APM	5.8	5.3
Advent	6.8	5.5
Imagine	5.8	4.5
Manhattan II	6.3	6.0
Manhattan III	6.5	5.8
Prizm	6.5	5.5
Envy	5.3	4.8
Affinity	6.0	5.8
Criteria	1)	3)
LSD (5%)	1.0	1.0
Date of observation	2-Sep	2-Sep

1) 1: poor-9: good, 2) 1: weak-9: resistant

708  
9/11/04

Table 6. Disease rating by the infection experiment in seedlings, YPDES, 1978

708  
9/11/04

Variety	<i>Rhizoctonia</i>	<i>Drechlera</i>
YatsuGreen	6.0	7.3
Advent	6.0	5.3
APM	5.7	6.0
Manhattan II	6.0	6.0
Imagine	3.7	4.3

1: susceptible - 9: resistant



9900360

Table 7. Seedling vigour of various varieties in turf trial, YPDES, 1997

728  
9/11/04

Variety / Strain	Seedling vigour
YatsuGreen	7.5
Yatsugatake G-2	7.8
APM	7.0
Advent	7.0
Imagine	6.0
Manhattan II	5.0
Manhattan III	6.3
Prizm	6.0
Envy	6.3
Affinity	6.8
LSD(5%)	0.5

1: poor - 9: good

Amended

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE		The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.	
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP			
1. NAME OF APPLICANT(S) <i>The Governor, on Behalf of</i> KEN AMANO, GOVERNOR OF YAMANASHI PREFECTURE <i>The President, on Behalf of</i> HISAKAZU ARIMORI, PRESIDENT OF NICHINO RYOKKA CO., LTD.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME  YATSUGREEN
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) *1: 1-6-1 MARUNOUCHI, KOFU YAMANASHI 400-8501, JAPAN		5. TELEPHONE (include area code) 001-81-55-223-1618	6. FAX (include area code) 001-81-55-223-1622
		7. PVPO NUMBER 9900360	

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☐ YES ☒ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☐ YES ☒ NO  
 If no, give name of country JAPAN

10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☒ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☐ YES ☒ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

DR. TOSHIHIKO YAMADA AND SIX PERSONS OF YAMANASHI PREFECTURE TRANSFERRED ALL THEIR RIGHTS TO YAMANASHI PREFECTURE.

MR. HIDEAKI TONIGI AND MR. HISAKAZU KHIARA OF NICHINO RYOKKA CO., LTD. TRANSFERRED ALL THEIR RIGHTS TO NICHINO RYOKKA CO., LTD.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

STD-470-E (07-97) (Destroy previous editions).

Electronic version designed using WordPerfect Informs by USDA-AMS-IMB.

## Exhibit E-Statement of the Basis of Ownership

In item 11, the number of inventors were incorrect, the right number is four including Dr. Yamada from Yamanashi Prefecture side and two people from Nichino Ryokka Co., Ltd. Please see the following table:

	Yamanashi Prefecture	Nichino Ryokka Co., Ltd.
Number of inventors	Four people	Two people
Name of inventors	Dr. Toshihiko Yamada Mr. Katsumi Hokura Mr. Tsugutoshi Kishida Mr. Itsuo Koizumi	Mr. Hideaki Tonogi Mr. Hisakazu Kihara
Condition	All of them are employees of Yamanashi Prefecture and by agreement of employment; all rights to any invention belong to Yamanashi Prefecture.	All of them are employees of Nichino Ryokka Co., Ltd. and by agreement of employment; all rights to any invention belong to Nichino Ryokka Co., Ltd.

We have also the documentations to prove the above transfers, but original is written in Japanese.

If you have further questions or any unclear matters, please let me know.

We have a small question for you:

Regarding the name of applicants, the current Governor of Yamanashi Prefecture is Mr. Takahiko Yamamoto, as well as the current president of Nichino Ryokka Co., Ltd. is Mr. Kinya Jimbu. Do we have to revise their names? The representatives for both parties are most likely changing every three years. Do we have to change the applicant names for every three years for the future?

I am looking forward to hearing from you.

Thank you again and best regards,

Signature \_\_\_\_\_

Name

Titile

1-6-1 Marunouchi, Kofu

Yamanashi 400-8501

Japan